

1509295

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 October 2003 (02.10.2003)

PCT

(10) International Publication Number
WO 2003/080258 A3

- (51) International Patent Classification⁷: **B05D 3/04**, 3/10, 3/14, 7/24
- (21) International Application Number: **PCT/GB2003/001257**
- (22) International Filing Date: 24 March 2003 (24.03.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
0206930.0 23 March 2002 (23.03.2002) GB
- (71) Applicant (for all designated States except US): **UNIVERSITY OF DURHAM** [GB/GB]; Old Shire Hall, Old Elvet, Durham DH1 3HP (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **BADYAL, Jas, Pal**, Singh [GB/GB]; Redgate House, Wolsingham, County Durham DL13 3HH (GB). **WOODWARD, Iain, Stuart** [GB/GB]; Parkend Cottage, Danby, Whitby, North Yorkshire YO21 2NE (GB).
- (74) Agent: **BAILEY WALSH & CO**; 5 York Place, Leeds LS1 2SD (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- (88) Date of publication of the international search report:
31 December 2003
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND APPARATUS FOR THE FORMATION OF HYDROPHOBIC SURFACES

(57) Abstract: The invention relates to the application of a coating to a substrate in which the coating includes a polymer material and the coating is selectively fluorinated and/or cured to improve the liquid repellance of the same. The invention also provides for the selective fluorination and/or curing of selected areas of the coating thus, when completed, providing a coating which has regions of improved liquid repellance with respect to the remaining regions and which remaining regions may be utilised as liquid collection areas.

WO 2003/080258 A3

10/509295

INTERNATIONAL SEARCH REPORT

 Interna Application No
 PCT/EP 03/01257

 A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 B05D3/04 B05D3/10 B05D3/14 B05D7/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

 Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 B05D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 898 775 A (OKA JOJI ET AL) 6 February 1990 (1990-02-06) column 3, line 3-12; claims 1,2	1-10, 12-17, 22,26
Y		23-25, 27,28 11
A		
Y	EP 0 834 352 A (CIBA GEIGY AG) 8 April 1998 (1998-04-08) claims 11,22,29	23-25, 27,28
Y	US 3 544 790 A (BROWN MARTIN J) 1 December 1970 (1970-12-01) claim 8	24
	--- -/-- ---	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the International filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the International filing date but later than the priority date claimed

T later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the International search

30 September 2003

Date of mailing of the International search report

13/10/2003

Name and mailing address of the ISA

 European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel: (+31-70) 340-2040, Tx: 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Bjola, B

INTERNATIONAL SEARCH REPORT

Internal Application No
PCT/GB 03/01257

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 352 758 B1 (FONG BETTIE C ET AL) 5 March 2002 (2002-03-05) claims	3,7,11, 28
A	WO 99 32235 A (BTG INT LTD ;BADYAL JAS PAL SINGH (GB); HUTTON SIMON JAMES (GB)) 1 July 1999 (1999-07-01) claims 1-3	1,2

INTERNATIONAL SEARCH REPORT

Information on patent family members

Internal Application No
PCT/GB 03/01257

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4898775	A	06-02-1990	JP 61248734 A	06-11-1986
			AU 567414 B2	19-11-1987
			AU 5648686 A	30-10-1986
			CA 1295888 C	18-02-1992
EP 0834352	A	08-04-1998	EP 0834352 A1	08-04-1998
			AU 709598 B2	02-09-1999
			AU 1139997 A	03-07-1997
			CA 2238345 A1	19-06-1997
			WO 9721497 A1	19-06-1997
			EP 0865326 A1	23-09-1998
			JP 2000503044 T	14-03-2000
			US 6169127 B1	02-01-2001
US 3544790	A	01-12-1970	US 3681103 A	01-08-1972
US 6352758	B1	05-03-2002	AU 3771299 A	23-11-1999
			CA 2330116 A1	11-11-1999
			CN 1308652 T	15-08-2001
			DE 69910021 D1	04-09-2003
			EP 1084178 A1	21-03-2001
			JP 2002513830 T	14-05-2002
			WO 9957185 A1	11-11-1999
WO 9932235	A	01-07-1999	AT 240163 T	15-05-2003
			AU 1770099 A	12-07-1999
			DE 69814683 D1	18-06-2003
			DK 1042081 T3	01-09-2003
			EP 1042081 A1	11-10-2000
			WO 9932235 A1	01-07-1999
			JP 2001526312 T	18-12-2001
			US 2002114954 A1	22-08-2002
			US 6358569 B1	19-03-2002